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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO.          | CONFIRMATION NO. |
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| 10/530,469   | 04/06/2005  | Christian Schmaranzer | SCHMARANZER ET AL<br>- 1 PCT | 4891             |
| 25889  | 7590        | 07/17/2008            | EXAMINER                     |                  |
| COLLARD & ROE, P.C.<br>1077 NORTHERN BOULEVARD<br>ROSLYN, NY 11576 |             |                       | ABOAGYE, MICHAEL             |                  |
|  |             |                       | ART UNIT                     | PAPER NUMBER     |
|  |             |                       | 1793                         |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/530,469 | <b>Applicant(s)</b><br>SCHMARANZER ET AL. |  |
|                              | <b>Examiner</b><br>MICHAEL ABOAGYE   | <b>Art Unit</b><br>1793                   |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,3,5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2,3,5, and 7-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8 and 10 include the limitations “applying a filler on the basis of aluminum in a region bridging the butt-joint on both surfaces of the sheets and melting the filler to form a seam consisting of a welding joint connection with the aluminum material sheet and a soldering joint connection with the iron or titanium material sheet, wherein a width of the soldering joint connection extending from the butt- joint and along the iron or titanium sheet corresponds to at least three times the thickness of the iron or titanium sheet”, it is unclear how said limitations correspond to the disclosed invention. It is noted that while said filler on the basis of aluminum is applied in the region bridging the but-joint on both surface of the sheet, said width of the soldering joint would be characterized along the line of abutment between the two sheet and not along a horizontal line along the lengths of said sheet as depicted by the item b of figure 2. It is further noted that the item b should rather describe the length of the solder connection but not the width, to be consistent with the disclosed invention. Therefore the claims are indefinite and their scope unascertainable.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2, 8 and 9 insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 102(b) as being anticipated by Bertels (US Patent No. 3,202,793).

Bertels discloses a method for joining a sheets of aluminum material to a sheet of ferrous metal or (steel) material comprising: providing the iron or steel with a zinc coating (column 1, lines 30-38, column 2, lines 2, lines 4-15 and column 6, line 35-40) and forming butt joint between the sheets using aluminum filler (column 1, lines 15-21, and lines 66-70); said filler melting in a region bridging the butt-joint on both surfaces of the sheets to form a seam consisting of a welding joint with the aluminum material sheet and a soldering joint with the iron sheet; said soldering joint having a width extending along the iron sheet (figures 1-6, column 4, lines 35-60); wherein the sheet made of iron material is provided with a chamfer on at least one side of the sheet prior to the application of the coating in the region of the joint (see figures 5a and 5b). Bertels further shows two sheets joined with a surface lying on one side in a common plane after the application of the weld seam in the region of the joint (see, figures 1 and 8). Bertels also in figure 6 shows cold forming the joined sheets by bending.

In figures 5a-5c and 6 Bertels, shows a seam joint having a substantially large thickness compared to the thickness of the workpieces, a width “b” of the seam “35”

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measuring 8 mm and a sheet thickness of 2 mm, said seam width is at least three times the thickness of the sheet (column 4, lines 50-59).

### **Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) rejected under 35 U.S.C. 103(a) as being unpatentable over Bertels in view of Persson (US Patent No. 2,719,900).

Bertels as above teaches cold forming the joined sheet but does not expressly teach the step of flattening by plastic deformation after the application of the filler.

However Persson teaches a welding process, forming a weld bead or seam, wherein the weld bead or seam is deformed plastically or flattened by the application of a roller thereby consolidating the weldment (see, Persson, column 2, lines 45-55).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to have modified the methods of Bertels with the application of a roller to plastically deform the weld seam as taught by Persson in order to consolidate the weld seam which by so doing will enhance the strength of the bond (see, Persson, column 2, lines 45-55).

7. Claim 5 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) rejected under 35 U.S.C. 103(a) as being unpatentable over Bertels (US Patent No. 3,202,793) in view of Kunz et al. US Patent No. 6,478,886).

Bertels fails to teach covering the sheets with a corrosion protection layer on at least one side of the sheets in the transitional region to the coated iron material, especially a coat of lacquer.

However Kunz et al. teaches a sealing for metallic members including steel or ferrous materials, said sealing step comprising applying zinc or zinc alloy coating followed by a lacquer, wherein said sealing provides excellent protection against corrosion (see Kunz et al. column 3, lines 18-26).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the methods of Bertels to cover the weld seam with a corrosion protection layer made a coat of lacquer as taught by Kunz et al. to enhance the corrosion protection of the metal substrates forming the seam joint (see Kunz et al. column 3, lines 18-26).

8. Claims 7 and 10 insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertels (US Patent No. 3,202,793) in view of Frings et al. (US Patent No. 4,827,100).

Bertels discloses a method for joining a rolled sheet of aluminum material to a rolled sheet of ferrous metal or (steel) material comprising: providing the iron or steel with a zinc coating (column 1, lines 30-38, column 2, lines 2, lines 4-15 and column 6, line 35-40) and forming butt joint between the sheets using aluminum filler (column 1,

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lines 15-21, and lines 66-70); said filler melting in a region bridging the butt-joint on both surfaces of the sheets to form a seam consisting of a welding joint with the aluminum material sheet and a soldering joint with the iron sheet; said soldering joint having a width extending along the iron sheet (figures 1-6, column 4, lines 35-60); wherein the sheet made of iron material is provided with a chamfer on at least one side of the sheet prior to the application of the coating in the region of the joint (see figures 5a and 5b). Bertels further shows two sheets joined with a surface lying on one side in a common plane after the application of the weld seam in the region of the joint (see, figures 1 and 8). In figures 5a-5c and 6 Bertels, shows a seam of a joint having a substantially large thickness compared to the thickness of the workpieces, a width "b" of the seam "35" measuring 8 mm and a sheet thickness of 2 mm, said seam width is at least three times the thickness of the sheet which does not fracture under plastic deformation (column 4, lines 50-59).

Bertels does not expressly teach cold forming the joined sheet blank connected by the soldering or welding seam.

However, Frings et al. teaches process of making shaped member from a sheet pieces (37, 38, figure 5), butt welding the abutted ends of the sheet to form a composite sheet and converting said composite sheet into a shaped member by pressing or deep drawing (note the examiner interprets this forming process as including deforming the connecting seam, because the entire length of the composite sheet including the joint or the seam portion is subject to deformation during the deep drawing operation, furthermore deep drawing involves flattening the weld seam (Frings et al., abstract and column 1, line 56-column 2, lines 37)).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the invention of Bertels. to include a shaping step after the soldering or welding process as taught by Frings et al. since the subsequent shaping does not require elaborate positioning fixtures (Frings et al., column 2, lines 1-9).

9. Claim 8 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Webb (US Patent No. 3,473,216) in view of Lorcher et al. (US Patent No. 3,655,017).

Webb teaches method of joining a sheet of aluminum material to a sheet of steel coated with titanium (Note, the examiner interprets the sheet of steel coated with titanium to functionally similar to titanium material recited in the claim, because in both cases, the surfaces presented to be joined to aluminum material is substantially of the same material i.e. titanium) ( column 3, lines 1-25), further coating said titanium coated steel sheet with aluminum ( column 3, lines 20-30), and positioning said sheet in abutment contact with aluminum sheet, and applying an aluminum filler in a region bridging the butt-joint on both surfaces of the sheets (column 3, lines 50-60) and melting the filler by welding or brazing to form a seam consisting the two components, i.e. aluminum and titanium coated steel ( column 3, lines 26-49).

Webb fails to teach the relationship between the soldering or the welded joint width and the thickness of the joining sheet.

Lorcher et al. teaches joining steel sheets, by forming a soldered lap joint with a width of at least four times the thickness of the sheets to obtain a joint of excellent



strength (Lorcher et al., column 1, lines 63-70). (The examiner takes note of the fact that the claim set forth a range, "at least 3 times", however it is noted that the phrase "at least four times", incorporates said range).

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the process of Webb to form soldering or the welded joint of width at least four times the thickness of the sheets to be joined as taught by Lorcher et al. in order to obtain a joint of excellent strength (Lorcher et al., column 1, lines 63-70).

10. Claim 2 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Webb (US Patent No. 3,473,216) in view of Lorcher et al. (US Patent No. 3,655,017) as applied to claim 8 above and further in view of Yajima (JP 07032143).

Webb and Lorcher et al. fail to teach sheets to be joined with chamfered or beveled edges.

Yajima teaches butt-welding parts or workpieces to form a joint by forming the parts with chamfered or beveled edges in order to decrease the thickness of the sheets at the abutment region or the thickness at the joining interface, thereby reducing welding time and also enabling conventional welding techniques to be applied to welding or joining thicker workpieces without modifying the welding fixture (see Yajima, figures 1-5 and the English abstract).

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the combined process of Webb and Lorcher et

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al. to form the parts with chamfered or beveled edges as taught by Yajima, in order to decrease the thickness of the sheets at the abutment region or the thickness at the joining interface, thereby reducing welding time and also enabling conventional welding techniques to be applied to welding or joining thicker workpieces without modifying the welding fixture ( see Yajima, figures 1-5 and the English abstract).

11. Claim 3 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Webb (US Patent No. 3,473,216) in view of Lorcher et al. (US Patent No. 3,655,017) as applied to claim 8 above and further in view of Lentz et al. (US Patent No. 4,830,258).

Webb and Lorcher et al. fail to teach deforming the seam by flattening.

Lentz et al. teaches deforming the seam by flattening, using rollers to smoothen out the weld peaks and burrs to obtain very uniform, smooth and even surfaces butt weld seam (Lentz et al., column 3, lines 25-30 and figure 12).

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the combined process of Webb and Lorcher et al. to include flattening, using rollers to smoothen out weld peaks and burrs as taught by Lentz et al. to obtain very uniform, smooth and even surfaces butt weld seam (Lentz et al., column 3, lines 25-30 and figure 12).

12. Claim 5 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Webb (US

Patent No. 3,473,216) in view of Lorcher et al. (US Patent No. 3,655,017) as applied to claim 8 above and further in view of Kunz et al. US Patent No. 6,478,886).

Webb and Lorcher et al. fail to teach covering the seam formed by the filler or the metallic substrates with a corrosion protection layer.

Kunz et al. teaches a covering for metallic members including steel or ferrous materials, said covering including, applying zinc or zinc alloy coating followed by a lacquer, wherein said covering provides excellent protection against corrosion (see Kunz et al. column 3, lines 18-26). It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the combined process of Webb and Lorcher et al. to use a corrosion protection layer made of lacquer as taught by Kunz et al. to enhance the corrosion protection of the metallic substrates (see Kunz et al. column 3, lines 18-26).

13. Claim 10 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Webb (US Patent No. 3,473,216) in view of Lorcher et al. (US Patent No. 3,655,017) and Lentz et al. (US Patent No. 4,830,258).

Webb teaches method of joining a sheet of aluminum material to a sheet of steel coated with titanium (Note, the examiner interprets the sheet of steel coated with titanium to functionally similar to titanium material recited in the claim, because in both cases, the surfaces presented to be joined to aluminum material is substantially of the same material i.e. titanium) ( column 3, lines 1-25), further coating said titanium coated steel sheet with aluminum ( column 3, lines 20-30), and positioning said sheet in

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abutment contact with aluminum sheet, and applying an aluminum filler in a region bridging the butt-joint on both surfaces of the sheets (column 3, lines 50-60) and melting the filler by welding or brazing to form a seam consisting the two components, i.e. aluminum and titanium coated steel ( column 3, lines 26-49).

Webb fails to teach the relationship between the soldering or the welded joint width and the thickness of the joining sheet.

Lorcher et al. teaches joining steel sheets, by forming a soldered lap joint with a width of at least four times the thickness of the sheets to obtain a joint of excellent strength (Lorcher et al., column 1, lines 63-70). (The examiner takes note of the fact that the claim set forth a range, "at least 3 times", however it is noted that the phrase "at least four times", incorporates said range).

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the process of Webb to form soldering or the welded joint of width at least four times the thickness of the sheets to be joined as taught by Lorcher et al. in order to obtain a joint of excellent strength (Lorcher et al., column 1, lines 63-70).

Webb and Lorcher et al. fail to teach deforming the seam by flattening.

Lentz et al. teaches deforming the seam by flattening, using rollers to smoothen out weld peaks and burrs to obtain very uniform, smooth and even surfaces butt weld seam (Lentz et al., column 3, lines 25-30 and figure 12).

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the combined process of Webb and Lorcher et al. to by flattening, by using rollers to smoothen out weld peaks and burrs as taught by

Lentz et al. to obtain very uniform, smooth and even surfaces butt weld seam (Lentz et al., column 3, lines 25-30 and figure 12).

14. Claim 7 is insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Webb (US Patent No. 3,473,216) in view of Lorcher et al. (US Patent No. 3,655,017) and Lentz et al. (US Patent No. 4,830,258) as applied to claim 10 above and further in view of Frings

Webb, Lorcher et al. and Lentz et al. fail to teach cold forming the joined sheet blank connected by the soldering or welding seam.

Frings et al. teaches process of making shaped member from a sheet pieces (37, 38, figure 5), butt welding the abutted ends of the sheet to form a composite sheet and converting said composite sheet into a shaped member by pressing or deep drawing (note the examiner interprets this forming process as including deforming the connecting seam, because the entire length of the composite sheet including the joint or the seam portion is subject to deformation during the deep drawing operation, furthermore deep drawing involves flattening the weld seam (Frings et al., abstract and column1, line 56-column 2, lines 37)).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the combined invention of Webb and Lorcher et al. and Lentz et al. to include a shaping step after the soldering or welding process as taught by Frings et al. since the subsequent shaping does not require elaborate positioning fixtures (Frings et al., column 2, lines 1-9).

***Response to Arguments***

15. The examiner acknowledges the applicants' amendment received by USPTO on April 09, 2008. Claims 2, 3, 5 and 7-10 remain under consideration in the application.

16. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the feature upon which applicant relies (i.e., a coverage width b, Fig. 2 of at least three times the thickness of the iron or titanium sheet I, is not consistent with the claimed invention. It is noted that while said filler on the basis of aluminum is applied in the region bridging the butt-joint on both surface of the sheet, said width of the soldering joint would be characterized along the vertical line of abutment between the two sheet and not along a horizontal line along the lengths of said sheet as depicted by the item b of figure 2. It is further noted that the item b should rather describe the length of the solder connection but not the width, to be consistent with the disclosed invention. It is also noted that said distance b which the applicant relies on in his argument may depend on the degree of chamfer of the iron sheet i.e. the taper length of the iron sheet at the abutment portion. Thus said dependence on the taper length would change the ratio (i.e. at least three times) which forms the pivotal issue of the applicant's remark/argument. During patent examination, the pending claims must be "given the broadest reasonable interpretation." Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162

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USPQ 541,550-51 (CCPA 1969). In view of the new grounds of rejection based on the 35 U.S.C. 112, second paragraph and the fact that both Bertels and Webb teaches the same characteristic materials to be joined, the coating filler and a seam joint of width substantially greater than the thickness of the part made of iron/steel, the rejection of claims 2,3, 5 and 7-10 shall remain.

### ***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL ABOAGYE whose telephone number is (571)272-8165. The examiner can normally be reached on Mon - Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on 571-272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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